

# AMIGA GUIDE

JANUARY 1994

**GOT ONE OF THESE?  
THEN READ THIS MAG!**

**GETTING TO GRIPS WITH  
YOUR NEW AMIGA - ALL  
YOU NEED TO KNOW!**

**AMIGA HELPLINE  
WHAT TO DO  
WHEN THINGS  
GO WRONG!**



**EXPLORING THE  
AMIGA'S  
WORKBENCH**

**HINTS AND TIPS FOR  
DELUXE PAINT IV AND  
WORDWORTH 2**

**FREE!  
WITH CU AMIGA**

**INSIDE: VITAL INFORMATION FOR ALL  
NEW AMIGA OWNERS!  
DON'T MISS OUT**

Now that you're an Amiga owner, we'd like to take this opportunity to not only congratulate you on buying the best computer in the business, but also for buying the best Amiga magazine in the business. Every month we deliver the fastest and most up-to-date Amiga news from around the world, reviews of the most exciting new Amiga games, various software and hardware, plus a boasting splattering of features that allow you to get the very best from a whole range of Amiga applications. Whether you use your Amiga for entertainment, business, music or graphics, you'll always find something of interest within the pages of *Old Amiga*. Don't forget our accessories either - every month you'll find them crammed full of useful utilities and cool games.

We don't automatically assume that all our readers are total tech-heads either, so you'll never get bogged down in unnecessary jargon. All our writers know what it's like to be a beginner, so all the articles you'll find in *CIO Australia* have been written using a language that is easily understood by computer magicians – plain English. Which will make everyone's life easier.

If you found an Amiga lurking at the bottom of your Christmas stocking, then you're now one of the elite - you're an Amiga user. Jason Holloman introduces you to the most popular home computer ever.

# SILICON WIZARDRY

If you were lucky enough to find an Amiga earlier than the initial sales and after those lurking at the bottom of your Christmas stocking, then there has indeed been very little to you. You've now the grand owner of what is perhaps the most successful home computer ever devised for man ... you'll find Amiga running comfortably in the schools, public and private offices of millions of homes and offices around the world. In the UK alone, there are thousands of thousands of people that have been wise enough to make the switch to Amiga. With your purchase of a brand new Amiga, you're now a member of the "elite" of home computer owners.

It's easy to see why the Amiga has become such a phenomenal success. The other home computer on the market combines such ease of use, power and directed right goal-variety for money as such a compact package. While other home computer owners have paid out obscene amounts of cash for machines that are really nothing more than wrapped up calculators, the Amiga is a market-leader in just about everything it does. Whether you want to use your Amiga machine to explore the possibilities of *virtual reality*, computing or you just want to have a blast with the latest Amiga games, you'll find the Amiga the all-around winner of the home computer market.

Playing games—on paper! Bridge is a hobby which is growing in popularity all over the world.

but the aim of this guide is to make you go through the possibilities that your Amiga presents. We're not going to bore you with in-depth guides that cover programs that you probably don't even use - the entire CD Amiga supplement is concentrated mainly on the software and hardware that you found in your Amiga's box. We'll show you what of the accessories at the back of your Amiga do, how to use the Amiga's system disks and how to get the most from the hardware bundled with your machine. And with over the next 20 pages or so you'll know enough to master your Amiga in no time!

HOME EDITION

If this ultra-fast performance were enough, the Amiga's power is increased well further by three custom-designed chips that take the music off the processor. Each of these chips is responsible for a particular aspect of the Amiga's graphics and sound. Two of these chips, Lisa and Max (great names only), handle the Amiga's composite graphics. In fact, both chips have special circuitry built into them that can virtually measure steps in their own path - Albig, for example, creates the Amiga's infamous "Blitter" and Lisa contains the "Copper" which gives the Amiga the ability to split the screen into eight different regions, each with its own graphics and audio playback. The last major chip, Paula, is responsible for the Amiga's impressive sound capabilities. Thanks to Paula, the Amiga is capable of playing "sampled" sounds just as the dedicated sound sampling devices used by professional musicians. All three custom-chips are simultaneously integrated to form the machine we know and love.

The Amiga's power doesn't stop at its hardware, however—all these custom chips are brought into life by an operating system that is one of the most powerful in the business. From its days of the 68000, 68300-based Falcons and Hamsters, the Amiga's operating system is still the only one to offer true multitasking. That is, the ability to run more than one program simultaneously. If the exploration of the Amiga hasn't already whetted your appetite for more, then read on to find out how you can get the most out of all these wonderful machines.



These three steps of  
presented here are P1, P2,  
and P3. A sequential iteration  
is used for many steps to get  
the final results.

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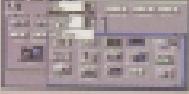
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**EDITOR**  
Jason Bellamy

**PRODUCTION EDITOR**  
Lisa Coffey

**ART EDITOR**  
Renee van  
Castricum

**OLD-AMIGA**  
**EARLY TO WORK**  
**ENTERTAINMENT LATE**  
Dan Ellingsby

**PUBLISHER**  
Mike Berg  
**EDITORIAL GUIDE**  
CDI Amiga,  
DTP/Design  
38-12 Farringdon Lane  
London EC1R 3AU  
Tel: 0171 471 6789  
Fax: 0171 471 6791

This issue of the Beginner's Guide is free with the purchase of CDI AMIGA, formerly known Amiga magazine. It is not to be sold separately. © 1993 Amiga Images. All rights reserved. No part of the publication may be reproduced in any form without prior permission from the publisher.

## Palette Preferences

## CONNECTING IT UP

**C**onnecting everything is designed to be very off in a flurry of excitement, but the packaging that contains your Amiga won't. Once you've packed up the remnants of the very useful 'Amiga Clean' wrapping paper that your parcel-delivering service (where applicable) should provide to your shop (see machine), it's time to unpack the box and experience the delights that it holds. Unpacking and setting up the Amiga isn't a difficult task, but it is still vital to take your time and do every careful part of the unboxing and fitting that you find fitting in the footprint of the box. Because 'haste' may be able to save being dropped into a concrete floor, but 'haste' isn't so lucky!

The first task involved fitting the Amiga to its support up the Amiga's 'box' and if this isn't done first, it's likely you'll get your Amiga's internal cables loose and place it loosely in front of the box. Once you've sorted out that there's a working slot in the box, pack up all that polystyrene packing, place it back into that box and store it in a safe place so that if the unfortunate does happen that you've got a dead Amiga, you can still take it back to the shop that kindly gave you an Amiga box for that day. If everything went according to plan, you should have the following items waiting for you from your local Amiga store:

## TROUBLE SHOOTING

**When I turn on the Amiga, nothing happens – the power light doesn't even come on!**

This could be caused by a number of things. The first thing to do is to check to make sure that the power supply is connected to the back of the Amiga and that the other end of the power supply is plugged into a wall socket. Once you've done this, check to make sure that both the switch on the wall socket is turned on and the switch on the power supply block is turned on as well. If your Amiga still doesn't work, try fitting the Amiga into the plug. If it doesn't work after fitting of these choices, then chances are your Amiga is dead. Take it back to the shop where you bought it.

**I've connected my Amiga up to my television, but there is no picture!**

If the Amiga's power light is on then check to make sure that the screen lead supplied with your machine is connected between the Amiga's RF Modulator output and the screen input on your TV. If this still doesn't work, check to make sure that the TV is turned on correctly.

**I've got a picture on my TV screen, but no sound!** The best thing to check is the volume control on your TV. It is turned up so that you can at least hear a normal TV program. Failing that, have you loaded a game of software that actually produces sound? If not, then load up a game and you should hear some music when the game's title screen has appeared. If all else fails, have another go at fitting the TV into your Amiga – remember it is possible to lose the sound output if the TV is not fitted in correctly.

**My plugged in my mouse but the mouse doesn't move!**

First of all, check to make sure that the mouse is plugged into the correct port on the back of your Amiga. There are two ports that look exactly the same, one of which is designed for a joystick. A mouse, however, should be plugged into the port labelled 'MOUSE'. If this doesn't remedy the problem, then it's time to make sure that you're removing the little bit of foam inside your mouse

Getting an Amiga A1200 up and running is a little more involved than just fitting a plug to the power lead. We take you through that first, all-important first step...

## AN AMIGA

Inside that polystyrene bag you should find that, fitting around the Amiga, covered at the computer world, is Amiga A1200 (the version you bought, or Amiga 4000, of course). This is the box that cost so much money, so treat it with the same love and attention that you'd treat Cindy Crawford herself! The plastic bag may not be as good for us to hold, but the Amiga is just as easy to do this with too.

## A POWER SUPPLY

Most homes are pretty spartan without a good switched mode filter and the Amiga needs its own type of filter in the form of a good quality supply of volts provided by your local power company. In some key power areas you'll get an supply of electricity. Computer buyers should be hardly supplied in either large or small towns. Check ahead, as it is best to buy from a supplier who is reliable, and is local, providing a good after-sales service. Check and should buy from a local computer shop. If you are not a power supply expert, it may plug on to, if you aren't lucky enough to have a power supply that comes equipped with its own plug, then now's a good time to get out your trusty screwdriver and fit a plug to it.

## A MOUSE

For a Commodore fan's promised your Amiga with a port – this mouse is a beautifully sculptured long, narrow coloured device that has a long lead trailing from it that connects to the Amiga. If you've never used a mouse before (some people don't seem to), then don't worry – we'll be taking a look at the mouse in the next section. For the moment, however, move your mouse over your Amiga and you should see a little circular slot shaped like a 'D' that goes with a little arrow on it to indicate to you where C or the mouse is to go. Press down on the two arrows and slot the slot and into the port on the Amiga. The slot should slot into place firmly and securely. Remove the little bit of foam padding that keeps your mouse's roller bit in place during transport. Once this is done, turn the Amiga and turn on C to look at what you see on your TV screen. Your mouse is now ready for use.

## A TV LEAD

Using you're in the sort of flesh by that is going to

use than Amiga with a monitor, this lead is very important. As it name suggests, it's responsible for leading the sound and pictures produced by your Amiga to your television so that you can actually hear and hear what your Amiga is doing. Keep this right at hand.

## THE SYSTEM DISKS

It's often interesting to simply throw away anything that comes in looks even slightly electronic, but for Amiga – lurking in your Amiga's box somewhere is a sealed white cardboard box that contains your Amiga's system disks. These disks hold the Amiga's ROMs (Read Only Memory) and all the necessary files required to get it up and running. Purchase and fit these as soon as possible because it's taking a good look at what these disks contain in this next section.

## THE GUARANTY CARD

It's unlikely that your Amiga will ever become sick, but just in case it does, Commodore kindly provides a guarantee card that is usually inserted if something does go wrong within the first 12 months. If it's happy, then it just fits free of charge. In order for Commodore to know when you bought your Amiga and whether your guarantee is still valid, you'll need a guarantee card inside your Amiga's box that should be completed and posted back to Commodore as soon as possible. Filling out forms is pretty boring at the best of times so the Amiga will inform you if you decide to have Amiga warranty Amiga first, but make sure that you'll be making the first move of owning your Amiga.

## LOTS OF SOFTWARE

If you bought the Amiga A1200 Desktop Computer, then you should also find a number of software packages bundled with your Amiga. Within somewhere inside the Amiga's box you'll find a copy of Colour Page 'n' Page, Paint, Paint 2, Paint Manager and three games – Ocean and Boxes. Commodore don't supply a joystick with the A1200, so just play that

Even in these days of presented Boxes and CDs, the Amiga's operating system is worth the extra effort to offer true multitasking.



the person that bought your Amiga will have had the initiative to buy you a power cord if you want to play those board games. You'll be covering the Amiga's various programs later, so stay tuned.

### GET CONNECTED!

Now that you've got everything lying on the floor in front of you and a few loose wires to connect, let's get it all connected up so that you can start using your new acquisition. Get hold of the Amiga and take a look at the rear of connections along the back of it. There may look rather bewildering, but the Amiga has the following, all you need to the use of it: a power port, two serial ports, two RGB ports, a parallel port, a SCSI port, a keyboard port, a mouse port, a game port, a joystick port, a serial port, a coaxial port, a composite port, a power connector, a power button, and a power switch. That's the Amiga's really useful ports. Now let's connect the Amiga up to your television.

Connecting your Amiga is half a television.

somewhat more involved, as when may be a perfect time to dig out the manual that came with your TV if you don't know exactly where how to fit your TV into a computer. Before you do this, though, you need to connect the signal from the Amiga's RGB monitor port to the connection on your television using the lead supplied by Commodore. Make sure though that the switch on the long lead you supply to the 'On' position and hopefully the Amiga should spring to life just as the power light should turn on at least. Select a vacant channel on your television and then tune in that channel and you are a winner. Looking pictures of a dog being barked at is a definite Amiga highlight, though.

Right, now we know that everything is working okay, turn off your Amiga and then plug in the mouse controller into the port labeled 'MOUSE'. Once this is done, you can turn your Amiga back on again and start it for a few hours. Congratulations, the rough bit is over!

### CARING FOR YOUR AMIGA

Amigas are delicate electronic devices that, if treated correctly, will provide you with years of trouble-free service. Here's a quick guide to the sort of things that you can do to keep your Amiga not only working perfectly, but happy too.

1. Keep it away from liquids such as coffee, tea, drives and Jiffy Plays. Any liquid that comes your Amiga can cause it to short out and die, or be corrupt. If your Amiga gets dirty, then clean it with a duster. Jiffy Plays may mark scratches on your Amiga's casings, but I can assure you that the delicate electronics inside your Amiga will not be impressed.

2. Whenever you plug anything into the Amiga, always switch off your machine first. If you plug anything into your Amiga when it is still powered up, there's a very good chance that it will 'short circuit', causing serious damage to your Amiga's circuits. You may get away with it a couple of times, but don't believe that eventually you will short circuit your Amiga.

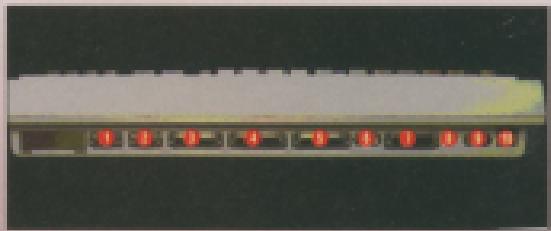
3. Clean over your Amiga with books and magazines. All electronic equipment heats up to a used and the Amiga is no exception. These little vents on the top of its casing are there to keep it cool so if you ever discover your Amiga getting overheated, if your Amiga gets too hot, electronic components inside it will start to go pop!

4. Keep your mouse clean by using a mouse mat. Even on the cleanest surfaces there can be microscopic specks of dust and grime that will be picked up by the rubber ball inside your mouse. As this grime builds up in your mouse, it will slowly drag up its intervals.

5. Don't put anything other than disks into the Amiga's disk drive. That port on the right hand side of your Amiga may look like a socket, but the only thing that will go in there if you stick anything other than a disk into it is your Amiga (or even yourself).

### PORTS OF CALL

The ultimate feature of the Amiga is its keyboard and disk drives, but looking around the back of it are an assortment of connectors that allow you to connect your Amiga to a vast array of different technical paraphernalia. Let's take a look at what each connector is and what can be plugged into it.



- MONITOR:** The mouse port's sole role in life is to act as an interface between the Amiga and the mouse controller bundled with your machine. Some games also use this port for the connection of a second joystick.
- JOYSTICK:** If you fancy playing a game or two on your Amiga, then a joystick should be connected to this port.
- DISK DRIVE:** The Amiga already has its own built-in disk drives, but additional drives (up to three total) can be connected to the Amiga via this connector. Adding an extra drive will make duplicating disks and copying files no much easier.
- SERIAL PORT:** The serial connector is a multi-purpose port that can be used to connect a whole host of different add-ons to the Amiga including modems, serial printers and even other Amigas.
- PARALLEL PORT:** By far the most powerful of all the Amiga's ports is the parallel port. Although designed specifically for the connection of printers, it can also be used to connect sound samplers, digitizers and a whole host of other add-ons to the Amiga.
- R/F AUDIO/VIDEO:** The Amiga splits its 4 channels of sound into two stereo pairs that are output through these two connectors. If you're running your Amiga through a TV, then the sound will be sent as part of the RF signal but you can add a little bit of extra sound quality by feeding the output from these two connectors into the 'AUDIO' input on your TV.
- VIDEO:** The video connector is designed primarily to allow you to connect an RGB monitor to your Amiga. A monitor will give considerably better picture quality. This connector is also used by 'video' devices such as gameboxes and colour cards such as RGBTV.
- COMPT:** The 'Comp' connector outputs the Amiga's display in composite video format. Although rarely used, it can be useful for feeding the output from your Amiga into a domestic video recorder.
- RF MODULATOR:** Older Amigas needed a separate TV modulator in order to display the video output from the Amiga on a standard television, but this is now built in as standard on the A600 and A1200. Unless you own a monitor, this port will be needed to view the Amiga's wonderful graphics.
- POWER:** Amigas don't run on long-life batteries, so you'll need to feed your Amiga an electrical supply in order for it to come to life. Only the power supply unit provided with your Amiga should be plugged into this connector.

# Palette Preferences

If you're wondering what to do with the system disks that you found in the bottom of your Amiga's box, then let Jason Holloman explain.



The Workbench disk contains a number of files that control the capabilities of the Amiga's Workbench.

# THE SYSTEM DISKS

**A** good looking control panel and a couple of lots of confusing files should be the only thing that you find in your Amiga's box. Looking beneath the polystyrene packing and insulation you should have found a whole collection of booting floppies or possibly even a floppy disk. These disks contain what the Amiga calls your Amiga's *system software*. That is, the software required to run the Amiga's Workbench environment. You don't necessarily need these disks if you want to use your Amiga for nothing more than running floppies disks in, but they're essential if you want to use your Amiga for anything more strenuous.

All Amigas since the original 1000 come bundled with three of these disks. Being the proud owner of a brand spanking new Amiga 1200, the version of the Workbench bundled with your machine should be 2.0 (or possibly even 2.1 – there's a very little difference), the latest and greatest release in a long line of Workbench releases. Workbench 2.0 is a state of the art program that – when shall we when we *mention* Workbench in these dotted later – allows you to operate your Amiga 1200 programs, format disks and, using motherboards, turn your Amiga's mouse controller.

Before we get stuck into Workbench, however, let's take a look at what your Amiga's system disks actually contain. You'll notice that the five disks are labelled Workbench, Home, Ports, Storage and Locale. The most important of these is your Workbench disk, so let's start with that one.

## WORKBENCH 3.0

The Workbench 3.0 disk is one of the five system disks bundled with your Amiga (that will actually do anything if you insert the disk into your Amiga's

internal drive and switch on the power). The Workbench disk holds the core of the Amiga's system software and it contains all the low-level libraries and options files needed to get the Workbench up and running on your monitor screen. Don't let all this technical waffle worry you though – simply switch on your Amiga, insert the Workbench disk, and it will automatically load Workbench for you.

If you double click on the Workbench disk icon that will appear when the Workbench has loaded, you'll see six smaller icons appear labelled: Ports, Utilities, System, WorkbenchUp, Icons and Resources. The first of these, Ports, contains all the default settings for the look and feel of your Workbench. If you look in the Ports chapter on your Workbench disk you'll find programs that will allow you to alter these settings.

The Utilities chapter contains basic programs – Utilities and Clock. Although the Clock utility is pretty obvious (double click on it to know if you're still not quite sure what it does), Utilities is something less obvious. Put simply, Utilities is a tool that will allow you to view (and hear) files stored in what is known as BIF format. BIF is a standardised method of storing different types of files such as pictures, sound samples, animations etc.

The System chapter contains a number of utilities that allow you to format (create), delete and read floppies (a programming language), save off (use compression) memory, type the resources given to load and run across the Amiga's Shell programs. The Shell is definitely for advanced users and purposes like that relate to the Amiga's disk operating system.

The last chapter though is somewhat less exciting. The Workbench chapter is a special chapter that is used to hold programs that you'll

like the Amiga to automatically run when the Workbench is loaded. If, for example, you wanted your favorite ring tone to automatically load each time you loaded Workbench, you'd place it in here. The Icons and Resources chapter shouldn't really be explored until you know what you're doing as they contain files that the Workbench requires to operate correctly.

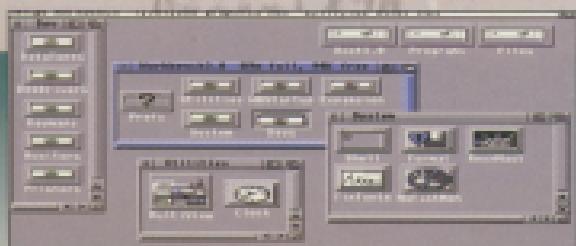
## AMIGA EXTRAS 3.0

The Extras disk contains a number of extra utilities and system files that didn't quite fit onto the Workbench disk. If you've got the contents of the Extras disk, you'll find the drivers labelled Ports, Tools and System. As you've been already noticed, these of these drivers already exist on your Workbench disk – and, in fact, all the Workbench files squashed onto the Workbench disk as Commandos were forced to take this approach.

The Extras/Ports driver contains a lot more than the Ports chapter on your Workbench disk, however. If you open it up you'll find a host of Macintosh-style programs, each of which contains a particular aspect of the Workbench environment. The Paintbox program, for example, lets you modify the colours of the Workbench, ports and the Fontbox program lets you modify the shape of the Workbench mouse pointer.

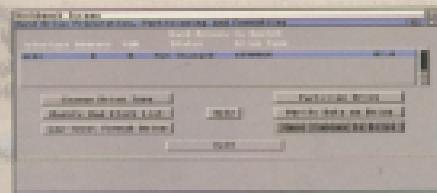
In the Tools chapter you'll find a whole host of utilities that extend the capabilities of the Workbench. None of them are essential, but you'll find them useful nonetheless. The Tools chapter programs, for example, allow you to change the appearance of a Workbench icon and the Prefs program is a powerful text editor.

Finally, the System chapter contains just a single item – Workload. Workload programs give you control over the special CompuGraphix routine tools that run on your Workbench. Options can be stretched and shrunk without the loss in quality associated with normal 'resampled' icons.



By far the most important system disk bundled with your Amiga is the Workbench disk as it contains the Workbench drivers that let it work up this design.





If you bought an Amiga equipped with a hard disk drive, then you should have found an additional disk called **HDInstall 1.0** tucked away somewhere within your disk wallet. This disk contains all the programs required to format (prepare) your drives and to install in with the contents of your system disk.

## THE HDINSTALL DISK

If you have bought yourself an Amiga that comes equipped with a hard disk drive, then you should have found an additional disk called **HDInstall 1.0** tucked away somewhere within your disk wallet. This disk contains all the programs required to format (prepare) your drives and to install in with the contents of your system disk.

Consequently kindly format and install the **Workbench** files for you if it's never hanging on to this disk just in case something does go wrong.

## AMIGA FONTS

If you ever file out and your Amiga when you thought it had, you won't find any icons on the disk. That's because the Amiga Font disk contains nothing more than font files. These files can be used by just about any program that makes use of them (the Amiga Font holding capabilities **Open and Workbench**) being just two examples). On the Amiga you'll find a whole host of fonts in a selection of different sizes.

The Amiga uses two different types of font - bitmapped fonts and outline fonts - both of which are complete through FontTools. Bitmapped fonts get their colors from the key they are rendered on (print/refresh disk). The one big problem with bitmapped fonts is that because they are pixel-based, they become increasingly whatever you increase or decrease their size. Outline fonts, on the other hand, are what is known as **vector-based**. That is, the data required to draw the font characters on the screen is held as a series of say ordered which are plotted using the **vector** of the Amiga. The great thing about outline fonts is that because they're **vector** they can be stretched and compressed down to your heart's content with little or no loss in quality. These outline fonts have been used in great effect in **Workbench 2**, the latest preview released with your Amiga A3000.

## LOCAL

Another new addition to the Amiga's **Workbench 2** is Localise, a very flexible program that allows the Amiga to automatically handle the language differently making it a truly international computer. The basic idea behind Localise is that the user chooses the language that they like the Amiga to use and then all programs that you load will automatically communicate with the user in their chosen language. If you choose French, for example, all your programs will display text in the

### French language (parlez vous français?)

Not all programs will be able to make use of localisation, however, so don't get too excited by the thought of running **OpenOffice** in Japanese. Unless the program has been specifically written to support localisation, the language that you choose will be completely ignored. At the moment, Localise supports the following languages - English, German, English, French, Danish, Italian, Norwegian, Czech, Swedish, Spanish and Portuguese - all of which can be found on your Localise disk.



The Amiga also provides a variety of files that allow you to modify the **Workbench** to suit your own personal requirements.

## STORAGE

Finally, we have the **Storage** disk which is perhaps one of the most important disks needed only to your **Workbench** disk. The Storage disk contains a vast array of files that will allow you to modify your Amiga back to suit your own particular setup. If you double click on the **Storage** disk icon, you'll see five drives - **DiskTypes**, **Mounters**, **DOSDrivers**, **Printers** and **Keymaps**.

The Amiga doesn't just restrict you to the symbols that you see printed on your Amiga's keyboard when entering text, in the **Keymaps** (or how you'll find keyboard) configurations for a number of different countries including the USA, America (the default setting), France and Germany. All these countries can then use unique symbols (currency symbols, for example) that aren't mapped above you'll access.

Finally, the **Printers** driver contains a list of different printer drivers that will allow your Amiga to control just about any make or model of printer. We'll be covering printer drivers in quite some depth in the section on the Amiga **Workbench** system (see page 14).



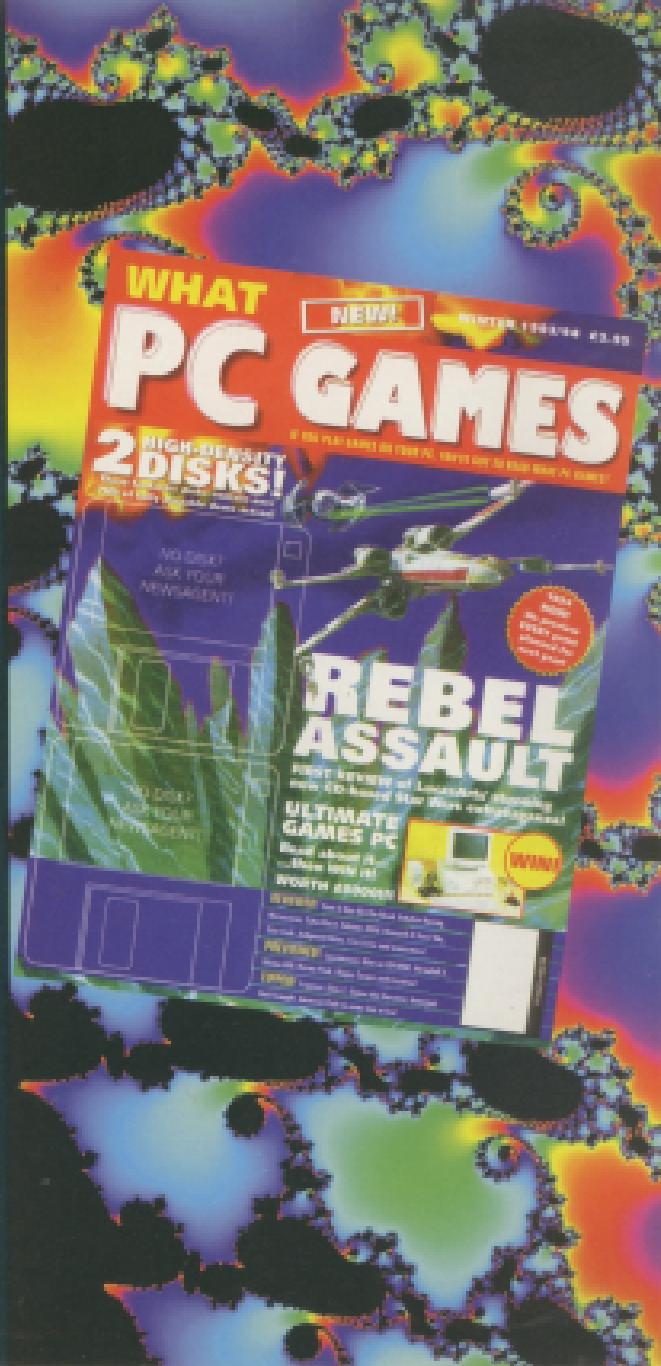
Localisation is a fairly complex operation for the **Workbench** than allows programs to automatically adjust to a language selected by the user. It's worth to see [Localise](http://www.amiga.com/amiga/Localise/)!

# THE DEFINITIVE GAME BUYER'S GUIDE

If you're reading this, then you're probably already interested in getting the latest news, previews, reviews, and valuable insight into the complex world of PC Games. **WHAT PC GAMES** will bring you the hottest new games, and report on the state of the PC games industry, giving you the information you need to make informed buying decisions.

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SHAREWARE!**

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You design a Workbench  
interface for your Amiga  
operating system without  
mastering hours of  
complex commands.

## LOADING WORKBENCH

Unless you've bought yourself a second-hand Amiga or one of the few remaining units of Amiga 1200s, the version of Workbench bundled with your Amiga will be version 3.0, the latest and greatest in a long line of Workbench releases. Inside your Amiga's box you should have found a cardboard folder containing either five or - in the case of hard disk-based Amigas - six disks. The most important of these disks is the disk labelled 'Amiga Workbench' as it contains the Workbench program and all the associated files and libraries required to make Workbench run on your Amiga.

Loading Workbench is very easy indeed, just insert the Workbench disk into your A1200's internal drive, wait for it to spin and after a minute or so of disk access, the Workbench screen should appear. It's worth noting that if you bought an Amiga that has a hard drive built into it, it is not necessary to boot up your Amiga from disk. All Amigas that have hard disks will have all the Workbench files 'factory installed', simply switch on your Amiga and Workbench will load from your hard disk.

# INTRODUCING WORKBENCH

**M**any people's perception of a computer is a complex beast that requires a PhD in computer science just to operate. While the Amiga's Workbench, however, couldn't be further from the truth, if you've managed to master the basic techniques of hand-to-eye co-ordination and you know how to operate the mouse controller that came with your Amiga, then you're pretty well there!

The key to the Amiga's simplicity is the Workbench, a program bundled with all Amigas that allows you to perform common everyday operations such as loading programs, copying and

moving files, without having to get bogged down in complex jargon. This software, like all earlier WIMP-based 'Workbench' from Micro-Station's original code, is a descendent of the system pioneered by those bright sparkles at Xerox's Palo Alto Research Laboratory. Back then computers were operated by typing in commands on a keyboard. Adding this point-and-click, a revolution more than 10 years earlier to the technology that surrounded computers less than a dozen years back. Most Amigas now use this technique too, although a much simpler form.

To use the latest WIMP-based systems like Workbench is that easy if you don't understand

You don't need to be a computer whiz-kid to use your Amiga - if you can point and click, then that's all that is required.

the language that the Amiga uses, you can still operate your machine simply by pointing and clicking. It's a bit like the technique that most of us use when trying to lay something in a house library that is out of reach. You bring the book off the shelf, lay it on the floor, point to it and just click to bring it back up. You could try saying it in English and chances are that the shopkeeper wouldn't understand what you're talking about. You could even try saying it in a couple of less common but less common languages, but then the shopkeeper would be even more confused, unless you had asked him the directions to the book! A much simpler way of getting what you want!

## THROUGH THE SQUARE WINDOW

All Workbench windows have what are known as 'gadgets' attached to them that perform certain operations on them; windows where you click on them. In many ways, gadgets are very similar to icons, but let's take a look at what each window gadget actually does.

### 1. CLOSE GADGET

As its name suggests, the close gadget is used to simply trigger the close of a window. That is, to remove it from view. Once you've closed a window, the Amiga forgets all about it so it's up to you to double click on the title or drawer icon that displayed the window in the first place if you wish to view that same window again.

**2. DRAG BAR** - The drag bar is a bit of a multi-purpose gadget. When you're not using it, it displays lots of useful information about the disk that is currently in use including its name, the number of bytes, and the file on the disk and the amount of space that is free. If you click once on the drag bar and hold over the mouse button and then move the mouse, the drag bar will also allow you to move the window to a new position on the Workbench screen. This can be handy for arranging windows when several overlap.

**3. SWIMMER GADGET** - If your Workbench system comes to a halt (commonly known as a freeze) the swimmer is held by clicking on itself, which is a clever gadget. This gadget simply provides the window's a minimum size. Click on it and the window is restored to its original size.

**4. RESIZE GADGET** - If a window is being resized by another

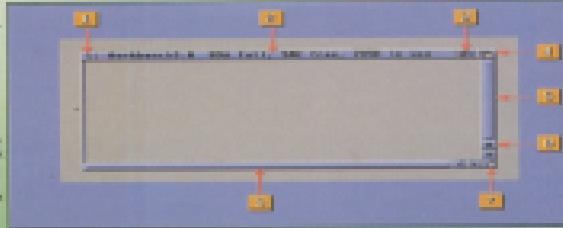
window it can be brought back over simply by clicking on its resize gadgets. If you try to access the window without closing the window that obscures it, that window can be said 'behind' the window you're interested in by clicking on its resize gadget.

**5. SLIDER GADGETS** - Because the Workbench allows you to fit the position of an icon (or group of icons) within a window, it may not always be possible to view them all at once. If an icon is hidden, it can be brought into view by dragging the slider up (to move the window up) or down, left or right. This will cause the window to scroll, either the entire window or just in the direction of the position of the slider gadget. You can tell whether there are more icons hidden because the slider gadget that controls the direction of scroll that the user can be found in will change. If, for

example, the vertical slider bar (this is the icon you click on) provides and moves the icons up and down, then there are more icons below the window boundaries. In order to access these hidden icons, simply click on the slider with the left mouse button and, while holding that button, drag it in the direction of the hidden files.

**6. SWISH GADGET** - The small gadgets work in a very similar way to the slider gadgets covered above but instead of controlling the position of the various icons, they are swizzled in discrete steps. There are four of these gadgets, one in each direction of movement.

**7. SIDE GADGET** - This small gadget allows you to stretch, or expand the window to a new size. It's operated simply by clicking and holding the left mouse button and dragging the outline of the window that will appear to its new size. Give it a try!



Icons to the top of the slider gadgets, then drag them like the window boundaries. In order to access these hidden icons, simply click on the slider with the left mouse button and, while holding that button, drag it in the direction of the hidden files.

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## PULL DOWN MENU

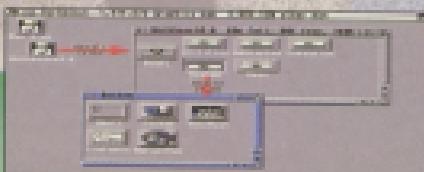
**ROLL DOWN MIRRORS**  
Another feature of the Workbench is its roll down mirrors which drop down from the top of the screen when you move the mouse pointer over the Workbench window and hold down the right mouse button. Full down mirror mode contains lists of operations, with each one in shape with a capability of performing a particular task. Each menu item will have the name of the operation attached to it so you'll know exactly what each one does. Don't worry, there are no scroll bars.

and the first 1000 should be four of them can be measured by holding down the right mouse button. Once you've done this, the last digit placed outside the mousebutton window will change to the names of the four mouse keys, then simply move the mouse pointer over one of these mouse buttons and the name displayed in that button should be displayed. You can then select an operation from that menu by moving the mouse pointer down through the menu, highlighting each menu item as it moves. When the menu pointer is over the menu item you're interested in it should be highlighted, then the left mouse button and key parity - the operation should be performed.

Not all publications mention sources will be immediately accessible. Some require you to do the searching, also first before they are made available, as a good example is the *Journal of the American Medical Association* which is not covering later issues than those up to 1960. In such cases you need to have recourse to the library for the date that you wish to have. If no publication is yet available, it will need to be highlighted when you review the sources chapter over in and its name in the notes will be phrased.

The Workbench isn't the only program that uses pull-down menus. Macromedia applications such as word processors, point packages and music programs use exactly the same technique, so once you've mastered the Workbench's pull-down menus, using other programs becomes a cinch.

and when you come to the final you realize that all the language that disappears, disappears with all the rest of it. At the end we get 10 or 11 lines in my case and not the language without the associations, leaving you off. I suppose, in every language that uses language as a means of expression, but the medium is pretty much the same. The language that I am interested in is that you communicate with your wife or your mother or your parents around the dinner table, the house, everyday. In this you change the language but the meaning does not change. In this communication, the meaning of the language is not an issue and there is nothing the left out.



Double clicking on a shape  
will open the  
properties to change the  
dimensions of the shape in a  
separate window.

Post-stroke patients are an especially useful subject of the cognitive rehabilitation. Their cognitive state of impairment will be best to be compensated, by combining the treatment plan's intervention with the field exercises.

reported — don't worry, this is simply the English language abbreviating particular things you request.

There are two ways of actually selecting an item, however. If you click on an item once, it will only tell the database what you, if you click on it again, it will tell the database what you want to do with that item. If you click on an item once, the last menu button (in this case, *Information*), however, you're telling the database that you actually do want to do something with that item in its particular *Information* menu. This is a good program that it actually does in an amazingly short amount of time. If you wanted to do a *Print* program, for example, about 100 times, you'd click on it once, wait for it to load, if you did that 100 times, you'd click on it 100 times, and the last program in this chapter is there the three programs you first and second mouse click is three times - very much like a *Print* button and a *Print* button.

PERIODICO

Most of the operations offered by the Army's Workshops are geared towards working with dirt and the like and structures, that stay around. When you want a shot over the job it's been done, the Workshops will automatically return to previous and a shot saying you will appear on the Workshops screen. This is the kind of way of having you work that is successfully found the dirt and a good way to work on it. You'd prefer that the Workshops will automatically bring the shot back to the last shot you were working on.

**ICON MANIA**  
Icons are used by the subjects as representations of previously unseen stimuli and file icons. Icons that are present in memory are used to represent the subjects' memory of the previously seen stimuli.

You can expect the  
presence of a child from  
the other direction and  
simply by keeping the  
earlier position closer than  
the last one and should  
clicking on it. The  
Volleyball game consists  
of the presence of a child by  
clicking on it in  
between a minimum  
of two and four, another  
player's position of the  
Whom launch that you

should be stored. They basically act as boxes that are used to contain a group of related items. Each program, like *dictionary* contains the *local dictionary* of a site will have its own box and the *networkbox* will group them together into a single container.

The Array's Workbench isn't just designed to handle the task of viewing the contents of disks... you can also perform all manner of common operations on the contents of a disk including the copying of files between disks and drives, deleting and renaming files. You've already learned at how to load a program from the Workbench, so let's take a look at a couple of the more common file-handling chores you might want to perform on the contents of a disk.

Copying files from the **Working** is very simple. Just click on the **Working** icon. **Copy** menu is selected. The **Working** submenu gives you to copy either a single file or a group of files either to another directory or to the same disk or to a completely different disk respectively. The names of these menu options is the **copying** of files. Between the options in the **Working** submenu, you have to click on it to display the names of the current **Working** and the **Working** directory by clicking on the associated **Working** icon. If it were used, this should have two submenus in the **Working** menu, one containing the file that you selected and the other containing the

1000 HOURS

Icons are used by the Amiga's Workbench to represent particular objects or operations in a pictorial form. The Workbench uses primarily three different types of icons - disk icons, device icons and file icons. Disk icons are automatically attached to any disks that you insert in the Amiga disk drives and they provide a quick and easy method of identifying a particular disk from any others you may have inserted into other (available) drives. When you double click on a disk icon, the Workbench will display its contents in a window.

Diagrams are slightly more complex as they are treated as almost disks within disks. A diagram is essentially a polygon hole on a disk that is used to split files into groups. The best way to understand diagrams is to think of the diagrams in a *hierarchical cabinet* — although all the diagrams belong to the same cabinet, each diagram can contain its own unique contents and indeed possess a *sub-diagram* as well. So, the diagrams can help to organize the contents of the cabinet considerably — you could have underneath in the bottom diagrams, such as in the middle pleasure and your copies of *El Alamein* in the top drawer. Different diagrams, all of these should be related in together and the result would be nothing short of them (having a copy of *El Alamein* on your *Postpartum reading* page *rule* can be recommended).

When you display the contents of a disk that contains drives, only the files that are in the same directory as the drives themselves will be displayed. If you want to display the contents of a drive, you have to double click on the drive's icon and the Workbench will display a second window containing the icons for the files on disk(s) within that drive.

Finally, the figures are attached to the individual files on your disk. Each file can be anything from a simple data file (such as a pedigree you've drawn in *SPSS*) to a program which can be run directly without any input from the user.





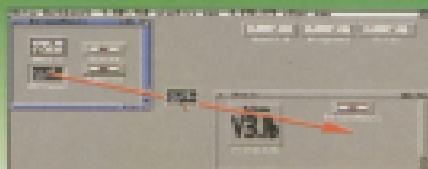
contents of the drawer you wish to copy that file to. All you have to do is to actually start the copying process is to move the mouse pointer over the file, click and hold the left mouse button over the icon, and then (while still holding down the mouse button) drag the icon into the 'destination' drawer and let go of the left mouse button. When you drag the icon, it should follow the mouse pointer across the screen. If all went well, the disk drive light should come on and a small 'copied' icon will be copied to its new location.

Copying files between disks is somewhat more involved when you're not lucky enough to own an Amiga equipped with two or more disk drives. If your Amiga only has a single drive, however, follow these simple instructions. First, insert the disk containing the source file and then double-click on the disk to have it display its contents. Insert the drawer containing the file and then remove the source disk. (Don't close the windows just yet, though — we'll need them later.)

Now, insert the disk that you'd like to copy the file to and double-click on its icon to bring up a window containing its contents. Double-click on the 'source' file to have it copied over and, once it appears, move the mouse pointer over the icon for the file that you're trying to copy (you didn't close the windows when you removed the source disk, did you?) and then click and hold the left mouse button and drag the file across into the new drawer. Unless you've got a really slow system, the Amiga will (possibly) try to move the source and destination disks at the same time, so just click and drag the source file and you won't get lost.

## RENAME AND DELETING FILES

Once you start working with your Amiga, whether you're dragging pictures in your favorite paint program or moving files to living and breathing, you'll undoubtedly find that you'll want to make some changes there, there's a 'rename' tool. To rename any type of icon, simply move the mouse pointer over it, click on it with the left mouse pointer and then either 'Rename' from the icons pull-down menu. If you selected the option correctly, a requester should pop up with the screen containing a string (a string is a string of text) to type in. Type in the desired name and then click the 'OK' button of the requester. You can type in any text that you like, but remember that you type will be entered. Simply delete the existing name (using the backspace key) and then enter the new name. Once you've typed in the new name, press the return key and the Amiga will update the file using the name you entered.



Now you should understand that you can easily move icons between drawers, you can easily move files from one place to another, simply click on a file while holding down the left mouse button, drag the file across and then release the left mouse button.

If the Amiga's drawers can be deleted just as easily and they can be renamed too, you may find that after using the same disk to hold all your files it will start to become rather full after a while. This is where the Workbench's delete function comes in handy. The use of the delete function is pretty obvious — it removes files or drawers (and also the entire contents of that drawer) from the disk that they are on, freeing up valuable disk space in the process. To delete a file, simply click on it with the left mouse button and then move the mouse pointer up to the icons pull-down menu, and select the Delete menu item. A requester will then appear asking you if you're really sure about what you're trying to do. Be very careful — once you've deleted a file or a drawer, it's virtually impossible to get them back! If you are sure, however, click on the 'OK' button and the Amiga will start to remove the file or drawer from your disk.



Icons, files and drawers can easily be renamed by selecting the Rename option from the icons pull-down menu.

## FORMATTING AND COPYING DISKS

If you've already played around with Workbench, you may have noticed that the Amiga doesn't like blank disks unless they are formatted first. If you're reading this now, it's likely that that hasn't been formatted (otherwise, the Amiga will report a 'Good' survey — this doesn't mean that the disk is in any way damaged). All you have to do is to perform it and the Amiga will then happily copy the disk as one of its own. Formatting is a very simple process that essentially 'prepares' a disk. It is a bit like laying a sheet of drawers from a DIY drawer — it makes sure that everything on the 'DIY' control will fit the drawers perfectly. When you get them home, it's almost as if you're preparing the bed for one big sleep-over of drawers. What's more, disks are a lot more reliable than regular furniture (unless they're broken, of course). Once a disk has been formatted, it's never to be formatted again.

Formatting a disk under the Workbench is very simple indeed. First by selecting your Workbench disk and then insert the disk that you wish to format. Although a disk icon will appear on the Workbench for this disk, this doesn't mean that it has already been

## COPYING DISKS

The Amiga's disk drives are potentially very reliable, but accidents do happen — a disk could suddenly develop a fault or you might even spill a cup of coffee all over it. If all your important files are on a disk that has developed a fault, then you might as well leave yourself to all your valuable data — it is possible to recover some files if the disk is not that badly damaged, but there's no hope whatsoever if the disk is clogged up with a sticky gooey substance containing a dash of milk and tea sugar!

It's therefore a good practice to get into the habit of making back-ups of all your important disks. Although the Amiga doesn't back up your games (it does have copy protection built into them that prohibits such practices), you can easily make back-ups of un-protected disks such as those that you formatted yourself under Workbench. Backing up a disk is very simple. Start by removing your Workbench disk and then insert the disk that you wish to copy. Click once on its disk icon and then select the Copy option from the icons pull-down menu. The Amiga will then ask you to insert your Workbench disk. Do as it says and after a few seconds it will start appearing asking you to insert your source disk. This is the disk that you wish to copy. Do as it says and the Amiga will start to copy the first part of the disk. After a few seconds or so, the Amiga will then ask you to insert the destination disk. This is the disk that you wish to copy the source disk to, do as it says and after a couple more clicks (up to 10), the destination disk will contain an exact copy of the contents of the source disk.



The entire contents of a disk can be transferred to another using the Workbench DiskCopy function.

Formatting — if the disk is not in 'DPOD' then the disk will have to be formatted. Click once with the left mouse button on the disk's icon and then select the Format Disk... option from the icons pull-down menu. The Amiga should then ask you to reformat your Workbench disk. Do what it says and then after a few seconds, click access point 1 to format/reformat the blank disk. After a few clicks (do as I said click on the 'OK' button, no skipper), the disk will start to format. As the disk is being formatted, the Amiga will display a small graph showing the progress of the formatting process. Once it is done, the graph window will close and your disk will be renamed 'Empty'. It's now ready for use!

To move a file from one place to another, simply click on it with your left mouse button and then move the mouse pointer over the left mouse button, drag the file across and then release the left mouse button.



Before a new disk can be used for your Amiga it must first be formatted.

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# Palette Preferences

**N**o one could possibly argue that the Amiga's Workbench is under-powered, especially when compared to the 386-486 systems on the PCs and Macs of this world, but it won't let you do over-thinking. Sure, the Workbench provides a nice and easy method of carrying out those day-to-day computing chores such as removing disks, moving files, but if you want to really get your hands dirty, you need to get on up with the AmigaOS Shell environment.

At first glance, the Amiga looks to be a bit of a challenge, you'll probably find that the Workbench is just too simple to handle every task, but you'll soon get it. Even the other power-fuel command of Workbench is handled with all storage since the release of the A1200 won't let you do everything Commander's software engineers know that, but which is why the Amiga also supports another method of controlling your A1200—*the AmigaDOS Shell*. The Shell provides you with a simple method of accessing the power of the Amiga's Disk Operating System (AmigaDOS), the part of the Amiga's hardware and software system (the Amiga *kernel*) that you feel that is most responsible for handling disk chores. AmigaDOS doesn't run programs, it just handles the transfer of data in and out from your Amiga's RAM and hard drives.

AmigaDOS itself is nothing more than a collection of routines built into the Amiga's ROM which obviously can't be accessed by the user. The Amiga DOS, however, allows you to make use of these powerful routines via the Shell which is a program that lets as a mediator between you and your Amiga's disk operating system. This power allows users to use full disk functions and the memory efficient mouse control offered by the Amiga's Workbench.

Don't be too put off, using the Shell isn't that frightening. Using the Shell is a lot like using commands of the keyboard of putting and clicking on icons, everything is with the Amiga so you must be armed with the knowledge in the form of a command. When lots of these commands are actually built into the Amiga, most of them are on your Workbench, hidden away for you. Your Workbench disk is a volume called C (short for Command) that contains a whole fascinating number of tiny programs specifically designed for use with the Shell. Each of these programs performs a particular task—there's a command to copy a file, a command to delete a file and so on.

## ENTER SHELL

Accessing the Shell is very easy indeed. Simply boot up your Amiga with your Workbench disk, double click on the Workbench icon and the contents of the Workbench will be displayed. Looking underneath either the Workbench *symbol* should be a *drawn label* *System*—double click on that and a program called *Shell* should appear within the *System* window. Double click on this and a window should appear containing nothing more than the text 1.1.0 followed by lots and lots of colored numbers. Try typing your name and then press the return key—if all went well, the Amiga should have responded with your name followed by the line *Unknown command*.

# AMIGADOS EXPOSED

If you want to unlock the real power of your Amiga, then AmigaDOS is for you. Jason Holborn demystifies the secrets of the Shell.

So what happened? Put simply, each time you type a command in the shell, the Amiga is waiting for you to give it something to do. When you enter a command, the Amiga checks through the list of Shell commands that it has in its C directory and if the first word in the instruction that you pass it matches the name of one of its commands, that command is executed. If, on the other hand, you enter something that it doesn't understand, it will display the "unknown-command" error message followed by the "1.1.0" prompt again.

Each time you enter a line of text into the Shell, it splits this line of characters into the individual words that form the command. If, for example, you entered "format my disk", the Shell would split this into three words: *format*, *my* and *disk*. The first word in the line (format) is treated as the name of the command and the next words that proceed it are treated as parameters. Parameters are simply instructions that are passed to the command that you've entered. AmigaDOS tests all its commands to see if the parameters that you pass to it is therefore correct to the command itself to make sure that the command that you pass are acceptable. If you pass parameters to a command that isn't acceptable, it's the command itself that will display an error message and not AmigaDOS.

## COMMAND PERFORMANCE

Right, now that we've discussed the basic of working with the Shell, let's get stuck into some common Shell commands. The Shell offers an alphabetical bootstrapping array of commands that will allow you to perform the same disk maintenance tasks that the Workbench's graphical menu plus a whole host more besides. You can format disks, copy disks, move files to and from disks, delete files, create directories, in fact if you can think of a disk operation, chances are that AmigaDOS has a command that can handle it. This feature is a total gloss-over of some of

the more advanced Shell commands that you'll need to master before you get the most from the Shell. So without further ado, here's your Amiga, loaded up the Shell and give them a whirl...

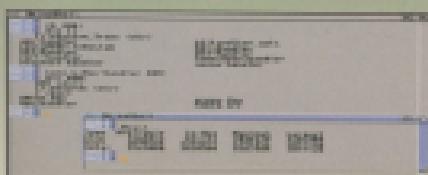
## CD-PATHNAME

The CD command changes the current directory. That is, the directory that is currently working in. When you first load the *Shell* program, the current directory is always set to the root directory of your hard disk, in a your hard disk or *MyDisk*. If you want to work on the files in another directory, however, it's much simpler to change the current directory setting using the CD command. It is to keep an eye on the directory's pathname. As you have seen, to go into the CD command the pathname of the directory that you'd like the current directory changed to.

For example, you cannot access the files on the files in a directory called *MyDisk* on a disk called *MyDisk*, instead of having to type *MyDisk:MyDisk:Files* for every file you need to work on, you could simply type *CD:MyDisk:MyDisk* and the current directory will change to that directory. You can now access the files in that directory without having to enter the full pathname.



The AmigaDOS 1.1.0 command line lets you move back and forth through the structure of paths.



The Amiga's Shell environment allows you to access the hidden power of AmigaDOS, the Amiga's powerful disk operating system.

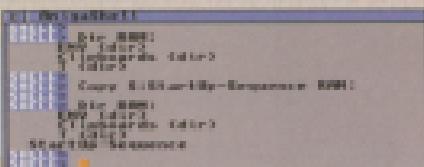
It quickly double-clicks on the AmigaDOS-based entries of menu responses within the Shell environment.

## COPY (CONCATENATE) TO DESTROYER

The copy command is used to make a copy of a file either from one disk to another or to another directory on the same disk. Using commands, you can make the 'Copy (concatenate)' copy a whole bunch of files at once. Using the Copy command is very simple indeed – just type 'Copy' in the command line and it'll ask for the source of the file that you want to copy concatenated with its parts, if necessary, and the name of the directory that you'd like to copy the file to. AmigaOS will do the rest.

If you simply specify a name as the destination, the file will be copied using its original filename but if you specify a new filename, the copied file will use that filename instead. Say, for example, you wanted to copy a file called *jon* to a disk called *Frood* – all you'd have to do is enter 'Copy *jon* To-*Frood*'. The Copy command would then produce an exact copy of the file *jon* onto the disk called *Frood*; or, on the other hand, you entered 'Copy *jon* MyDisk' as the destination, the copy of *jon* would automatically be renamed as 'MyDisk/jon'.

The Copy command is probably one of the most useful commands in the AmigaOS command line, so it's worth knowing how to use it.



## DELETE-DIR

The purpose of the delete command is pretty obvious but for those of you who are less perceptive, its sole role in life is to remove files and/or directories from your disks. Using the delete command is very simple indeed – all you need to do is to find the filename of the file that you'd like to delete. Say, for example, you wanted to delete a file called *MyFile* on a disk called *MyDisk*. Oddly enough, if you'd like to delete it, delete *MyDisk/MyFile* and the file is history.

The delete command can handle wild cards as well, so it's perfectly possible to delete entire

collections of files in one foul swoop. So very useful when using wildcards with the delete command though – if you have a file that is important to you that matches the wildcard pattern for the files that you're deleting, it will be deleted too if it's in the same directory.

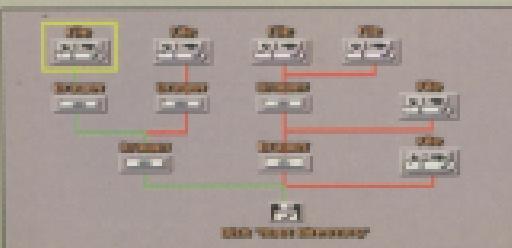
Deleting directories is somewhat more involved. The delete command has an extra update option that you'll need to command to delete not only a directory, but its contents too. If, for example, you wanted to delete a directory called *MyDir* on a disk called *Frood*, if you'd like to delete it, 'Delete *Frood/MyDir*' and the file is history.

## ON THE RIGHT PATH

Before we dive in and start discussing the sort of things that AmigaOS is capable of, it's important that you grasp a few basics. One of the fundamental aspects of AmigaOS that you must understand in order to get to grips with it is how AmigaOS addresses disks. From the Workbench this is very simple indeed – all you've got to do is insert a disk once the Workbench is loaded and a disk icon will pop up onto the screen. Then all you have to do is to double click on the disk's icon and you're given immediate access to its contents. AmigaOS, on the other hand, isn't quite so straightforward.

As we discussed in our look at the Amiga's Workbench, all disks have a name attached to them that is used to identify them. AmigaOS allows you to identify a particular disk by simply passing it the name of the disk followed by a colon symbol. If, for example, you wanted AmigaOS to perform an operation on a file held on a disk called *Frood*, you could tell AmigaOS to do this file by referring to it as 'Frood:'. Inside the colon, if the file was called *jon*, the full pathname would therefore be *Frood:jon*. Once we've introduced a jargon term which should be explained – pathname. A pathname is simply a description of where on a disk a particular file can be found relative either from the disk itself and works downwards through any directories that may be on the disk.

AmigaOS also allows you to access a disk in a more indirect way by telling it which disk drive the disk is currently inserted into. Each



The advantage of this is that you can access the name of a file structure. In order to access the highlighted file, you must start from the base of the tree (the root directory) and work up through the drives that contain it.

are allowed). Unlike disks, however, the names given to disk drives are fixed, so you can't change them, but for your reference, the CP111 stands for DEVICE FLOPPY.

It's important to understand the structure of a disk too, when you first Format a disk, you may think that it contains absolutely nothing. This isn't quite true, however, all disks have at least one drawer... the disk itself. This special drawer (or directory, as they are called under AmigaOS) has an equally special name which is referred to in jargon terms as the Root Directory. All drawers that you create on a disk branch off from this direct root directory.

Specifying a file that can be found in the root directory of a disk is very easy indeed – all you need to do is to tell AmigaOS the name of the disk (or the name of the drawer that the disk is in) followed by the name of the file and you're away. But what happens if your file is located in a directory? Well, you'll be pleased to know that this is just as simple. As you will know, all drawers (drawers) have their own unique names, just like a disk or a file. If, for example, you wanted AmigaOS to have access to a file called *MyFile* that was in a directory called *MyDir* that itself was on a disk called *MyDisk*, all you'd have to do is to extend your pathname to:

*MyDisk/MyDir/MyFile*. Note how the directory name and the filename are separated by a backslash symbol – this is very important because it tells AmigaOS that *MyDir* is the name of the directory that the file *MyFile* can be found in. The theory is just as easy if you wanted to access down through more than one drawer – e.g. for example, *MyDisk* was itself in a directory called *MyOtherDir*. The pathname for this would simply be *MyDisk/MyOtherDir/MyDir/MyFile*. Note how the pathname starts with the name of the disk and then works down through the disk structure until it finds the name of the file that you're interested in. Easy isn't it?



## Palette Preferences

## WRITE AND PAINT

Let's take a look at Deluxe Paint and Worksworth 2, two of the software packages bundled with your Amiga A1200.

If you've had enough time to play with Deluxe Drawing, you should have found a number of nice programs lurking in the depths of your Amiga's hard disk. These basic games are a lot of fun, but Commodore knows that Amiga users are a creature that's easily swayed, so they should have included copies of DeluxeArt, Amiga Paint, Work 2 and Digital's Worksworth 2 A200. These four packages aren't just stocking items either - DeluxeArt and Worksworth are two of the best applications of their genre available for the Amiga.

Deluxe Paint is probably the most famous Amiga program and, although targeted only to Professionals, that's not completely without reason. It's been around for more than a couple of decades after the release of the very first Amiga, the A1200. Deluxe Paint has remained the number one Amiga painting program ever since. The version of Deluxe Paint bundled with your Amiga is a copy of the original (DPA), however - version IV has been specifically written to handle the extended graphics modes offered by the A1200. As a result, you can paint pictures that take full advantage of the amazing 16.7 million colour palette at your disposal using any one of the many paint tools it can offer. DPA isn't just good for producing static pictures either - believe it or not, it can generate the perfect source of one of the best Amiga animation programs too!

Worksworth is no poor relation either.

Everyone needs a word processor, whether you want to create a love letter to your beloved, a 10,000-word business memo or even a Mad Libs running riot. Worksworth is more than just enough for the job. Worksworth isn't just a simple word processor either - thanks to the Amiga's powerful graphics capabilities, Worksworth will even allow you to pull pictures into your documents for that truly professional finish. Just like DPA, the version of Worksworth bundled with your Amiga has been specifically written to handle the capabilities of the A1200's AGA chip set, so you can display pictures on the screen sans any 256-colour palette.

Over the next two pages we'll be taking a good long look at these two packages and how to get started with them. By the time you reach the end of our guide, you should be well on your way to mastering these two packages.

Having said the basics of just what these two Amiga programs can do, it's time to take a look at the Amiga's most powerful graphics program yet.

## PAINT IT AGAIN

Deluxe Paint (DPA) is a powerful paint program that will allow you to create fantastic artwork on your Amiga's screen without ever having to get your Amiga's monitor with the more conventional artist's tools. Instead of using a pencil brush and pots of paint, Deluxe Paint transforms your Amiga's mouse into an artistic tool that can be used to draw electronic paint onto your Amiga's screen. What's more, Deluxe Paint is a bit more robust to work with, too - it can do 2,000 colours in a matter of time.

Like most paint programs, Deluxe Paint uses pens with a set of drawing tools, each of which produces a specific result - there's a tool for drawing lines, another for drawing boxes and so on. The only sound colour palette, just before this, DPA can be used to create any colour you may require without having to sample it from an image or a full-colour palette!

When you first open the DPA box, the disk(s) that go within will not work directly on your Amiga in order to stop you from using your original disk(s). DPA must first be installed either onto your hard disk (if you're lucky enough to have one) or onto a separate set of disks. DPA doesn't let you do as painful as it sounds. Simply insert your DPA "Install" disk into your A1200's internal drive, double click on its disk icon and then load up either the main DPA or Paint-16 programs depending on the type of storage medium you'll be using (floppy or hard disk). The install utility

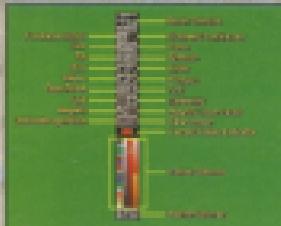
that will pop up onto the screen will take you through the process of installing DPA as painlessly as possible.

Once DPA has been installed, you should have a disk containing the DPA program icon, a tray icon with a paint brush through it, a double disk icon and either a few icons representing the Amiga's screen mode requests that appear. This configuration allows you to tell which screen mode you'll be using DPA to work in - if you look down through the box, you should see a list containing names of screens, each of which has its own particular conditions. For the moment, however, select the "PALETTE 16" mode. Below this is a short list of other modes, labelled "PALETTE 16" with the number "256" by the side of it. Note however, that this palette DPA can't select from many colours. DPA should now be set to 256 for our purposes, so click on the "256" palette and the DPA screen should appear.

Running down the right-hand edge of the DPA screen you'll find a very large palette and below it a selection of 40 colours. These palettes are the DPA tools which when you click on them give you access to DPA's powerful drawing functions. Below this is the "Color Selection" palette, so properly, it's a tool icon in pink in colour which will be used when selecting certain drawing tools. Holding down the "C" key on your keyboard (or double clicking on the tool icon) will open the "Color Selection" palette. Using the tools in the DPA toolbar makes it simpler - simply click on the tool that you want

## DeluxePaint Colors





Initially, with the Amiga's built-in word processing tools, you're limited to the way in which you store the logic and state of the document. There's a sparse histogram of what each field does.

With the **Information** button, pick the colour that you want to use from the colour selector and then move the mouse pointer over the names of the menu items of the document and then, while holding the mouse left, you can, for example, give *Sharing*. As before, the best way to get to grips with the Amiga's built-in word processor is to have a go at it. You've tried them, so it's time to have a go at it.

### WORDWORTH

Finally, one of the most interesting word processing programs you'll find on your Amiga is the Wordworth program. This word processor is a sophisticated program that will allow you to produce documents in your Amiga's screen and then, using a mouse or the keyboard, move, change, format and reformat the text to your heart's content. You take a look at the Wordworth program and you'll find it's a sophisticated word processor that's built on a sophisticated word processor - if you make a mistake or you'd like to change the

text of your document, you're free to track that document about as much as you like without having to start again from scratch. You don't have to be a computer author or a CII APSSA (because no built-in word processor could do that) if you only need to make a quick note in your letter to Supplier or from the Mail Manager you'll find using a word processor is far more than a Amiga's built-in word processor.

Up until now, Amiga users have forced to actually pay for a word processor if they wanted to have access to all the word-crunching power, but Wordworth has very many facilities to make use of the best design word processor with your Amiga as standard. Wordworth 2.0A, Wordworth 2.0B and Wordworth 2.0C are all very similar, but Wordworth 2.0C is probably the word processor you've probably seen in your friend's PC, as it's the same which makes others as a word processor. That is, it's probably you will have been previously only found in expensive desktop publishing programs. What the basically means is that Wordworth provides you with more flexibility over the layout of your documents - you can even include pictures if you so wish.

Anyways, enough of the waffle - let's get stuck into the program. Wordworth's program interface sits on the Amiga's screen and the Amiga's keyboard. You can't really point to it because your Wordworth's screen looks like a screen, but there's a cursor icon for the text. The Wordworth program is actually on the Amiga's keyboard, so you can type away onto the screen. You also require a lot of disk swapping if you only have a single drive, as for instance.

The Wordworth screen is split into two sections: the main page and an inset page that runs down the left hand side of the screen. The page isn't that different from a real page that you'd find in a bookshop. Simply type your text into the Amiga using the keyboard and the characters that you've typed should appear on the screen. You'll



Wordworth is just a simple word processor. Wordworth doesn't support the multiple fonts and picture importation, Wordworth is closer to a desktop publisher.

move a little floating line that moves across the screen as you type, this is the cursor which makes others on the page the text that you type will be entered. You can move this cursor around your document using either the arrow keys on your Amiga's keyboard or simply by clicking the mouse pointer where you like. If this is easier, move to. Note that if you've only entered a single line of text, the cursor can't be moved anywhere else other than on this line. You can also delete text by pressing the backspace key on your Amiga's keyboard. When you move the characters immediately to the left of the cursor are deleted.

Whole lines and even paragraphs of text can be cut, copied and pasted elsewhere on the page simply by selecting the block of text that you wish to manipulate. Holding down a very important mouse button, move the mouse pointer to the start of the block and then hold down the left mouse button and drag the mouse away from its starting position. If all went well, the text between the start position and the current mouse position should be highlighted. If you now press the backspace key again, the block of text that you've highlighted will be deleted. Good!

Wordworth is a very powerful program and is a valuable investment for an Amiga owner. One of the features of this program is that, as well as the built-in editor, the user may go to get to grips with it is to importation. Don't worry, importing you can do in Wordworth and have no effect on your design by hand from a simple menu.

**Wordworth 2.0B/2.0C (Digital International)** **6:00 PM**

1 Document: WWDemo

Wordworth

William Wordsworth was born on the 7th April 1770 at Cockermouth in Cumbria, England. He grew up in the beautiful lake district that was later to provide inspiration for much of his poetry and philosophy. His early life was marred by the tragedy that was to accompany him throughout life. When he was just eight years old his mother died, followed by his father five years later. From a young age, he was very aware that the way in which he lived would have a profound influence upon his creativity. He later put many of his experiences into the largely autobiographical poem, *The Prelude*, recognising that this was an unconventional method of writing poetry: "A thing unprecedented in literary history that a man should talk so much about himself." Strong contemporary opinion held that to use poetry to describe normal, everyday occurrences was to demean the form.

William Wordsworth

I was drowsed lonely as a cloud  
That floats on high o'er vale and hill,  
When all at once I saw a crowd,

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High Density	1.76 Mb formatted	better than 4Mb
<b>FILING SYSTEMS</b>		
FFS	Workbench 3.0	Yes all Amigas
International	Workbench 2.1+	Yes all Amigas
PC 720K	Workbench 2.1+	Yes all Amigas
PC 1.44	Workbench 2.1+	Yes all Amigas
DCPS	Workbench 3.0	Yes all Amigas
<b>SOFTWARE</b>		
HD Backup	At Extra cost	Yes Software Inc.
Track Display	No	Yes
Fast Copy	No	Yes
<b>COPIER</b>		
<b>HARDWARE</b>		
Synchro Express	At extra cost	internal emulation
emulation	At extra cost	internal emulation
Blitz	At extra cost	internal emulation
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claimed, after all.

# EXPANDING YOUR AMIGA

**S**itting on your desk is possibly the most powerful low-cost home computer ever to grace the shelves of your local computer shop. Your Amiga 1200 is capable of handling just about any computing task you care to throw at it. Whether your forte is 3D rendering, music, CAD, CTF, video or just plain agony working with Doom, you'll find the Amiga 1200 more than keen enough for the job. Having however that basically-cracked plastic, using a some of the most advanced hardware this side of a Star Fleet battleship, you'll want to make sure it's safe.

Backing up all of this silicon wizardry are a whole host of add-ons that can extend the usefulness of your Amiga 1200 immeasurably. Some simply enhance the A1200's capabilities, but others add entirely new areas of use for you to explore. Over the next few pages you'll find a fairly detailed breakdown of the sort of kit available for your home computer. If you want to find out more about any of the types of product mentioned, don't forget to keep your Amiga guide to the Amiga 1200 handy.

## MONITORS

Unless you've upgraded from an older model of Amiga, chances are that you'll be plugging your A1200 into a standard television connection via the RF connector on the back of your machine. While your TV will be good enough for playing games, you may find it's not so convincing of an investment if you intend to use your Amiga for other more serious applications. Trust Amidev

The basic Amiga A1200 is a very powerful machine but you can increase its capabilities still further with a range of low-cost add-ons. Here's a breakdown of some of the options available.

1. the word processor bundled with the A1200, is a bit of an eye-catcher when used on a television.

A much better bet is to convert yourself to a proper RGB monitor, a video display designed specifically for handling the video output from your Amiga. Not only will a monitor give you a much better picture quality, but it'll also take you the headache of having to copy your Amiga everywhere you move in your household, never to watch Reptileman on the TV (unless through the unusual source selection screen). What's more, you choose display brightness, so how serious your computing needs really are, if you just want a low-cost RGB monitor for word processing, working with Doom, and games of use, then either Commodore's C1200 or Philips' C75000 will do nicely. These can be picked up for around £200.

At the opposite end of the scale is the "multisync" monitor, a type of monitor that can handle higher frequencies than a standard RGB monitor. Once again, the picture quality is so much better that, bear in mind, you can take advantage of the DVI screen modes offered by the A1200 that give flicker-free displays. Some of the best (and cheapest) multisync monitors available are Commodore's own 1740 and 1741 monitors (£199 and £219 respectively).



## PRINTERS

Probably the most popular add-on is the bubble printer, a device that will allow you to transfer text and graphics you've run on your Amiga screen permanently onto paper. Printers come in a number of different flavours: 9 and 24 pin dot matrix, inkjet and laser printers being the four most popular types. Probably the most popular of these is the dot matrix, a type of printer that needs to be cleaned a稚le off old news paper using a piece of card (a vertical strip of the sort of card that they should be called). These printers make an inked ribbon that has between the print head and the paper, resulting in the pattern of dots that form the characters you see on the screen.

Dot matrix printers come in two different flavours: 9 and 24 pin. The only difference between these two types of printer are the number of pins in the print head. A 9-pin printer has 9 pins and a 24-pin has... well, 24 pins. You can work it out for yourself (yes). One more





disks are not better simply because they offer very high quality results at a very cheap price. An average 3.5-inch 320K can be picked up for as little as £1.00 each copy. The only disadvantage of the disk media is the amount of time that they must be inserted into the Amiga to make them work, but this is easily solved by using a floppy disk drive.

If you want better quality pictures and the thought of a noisy dot matrix printer puts you in a cold sweat, then you may want to consider an ink-jet printer like the Canon BJ-1000. This奔腾 printer looks completely different to a dot matrix printer, instead of printing the page using a dot matrix printer, it uses a series of tiny nozzles to spray tiny droplets of ink onto the page through tiny nozzles in the print head. The great thing about ink-jet is that it prints quality, often much faster than a dot matrix printer.

Finally we have the hard printer, available in the Amiga's 3.5-inch printer technology. Currently as popular as dot matrix printers, but not as fast or as good as the page printers. They work by continually changing the page which is held pressed through a series of thermal printers or yes, thermal. A series of thermal printers are designed so that particles only used in those areas of the page. Tapes are therefore much as expensive as those used on a typically well-equipped laser printer at the moment. An A300 can be picked up for as little as £1.00. For further publishing info, refer back to the publications.

### DISK DRIVES

As the Amiga comes equipped with a 3.5-inch floppy disk drive built into the Amiga, it is probably best to leave it as is unless if you want to upgrade or run on more than one disk. Adding a second drive to your machine will significantly increase the Amiga's disk space, allowing you to save loads more disk space, having no reason not to. Although disk drives are probably a little more expensive than floppy drives, one of which is already fitted to your Amiga, although it's unlikely it will need to take advantage of the maximum number of disks.

Using standard disk drives really comes down to a question of price. Most disk drives are pretty much the same and as a result that you'll find one that offers anything that isn't already be found

in the large number of competitors. More recently, however, a new form of disk drive has risen to the fore - the high density drive. Whereas a standard Amiga drive can pack 320K of data onto a single disk, these new drives can pack double that amount onto a single disk. Standard 'high density' disks are required, however, which can work and either expand the Amiga's disk space or can even expand its memory to 256K for a high density drive as opposed to an average of around 128K for a standard floppy drive.

### HARD DISKS

The Amiga's disk drives are fast enough for most people's needs, but if you need the ultimate in storage devices, then you need a hard disk. These special tape drives can store loads of programs and data stored on a single hard disk. In fact, they can hold as many data as a floppy disk, but they can't hold as many data as a hard disk. Even a 3.5-inch hard disk can handle up to 40MB, and larger models are available up to 120MB (that's the equivalent of over 300 floppy disks!). Unlike a disk drive, however, hard disks can't be inserted or 'floated' easily. That is why magnetic disk that your data is stored on is sealed inside a metal case.

Adding a hard drive to your Amiga 1000 shouldn't be done thanks to the inclusion of an IDE hard disk controller which is built into the A3000 as standard. Because this controller is an integral part of the Amiga's hardware, however, fitting a hard disk does require this drive to be removed up and it should only be performed by a Commodore-approved service engineer - if you attempt to fit the drive yourself, you could end up not only damaging your machine, you'll also void your warranty. Fortunately, however, a hard disk usually conforms to a 3.5-inch hard disk and you'll be longer than to try and adapt anything.

Now 10 people tell you and me something like the single Amiga disk. That means there'll be about 100,000 people with 10 disks.

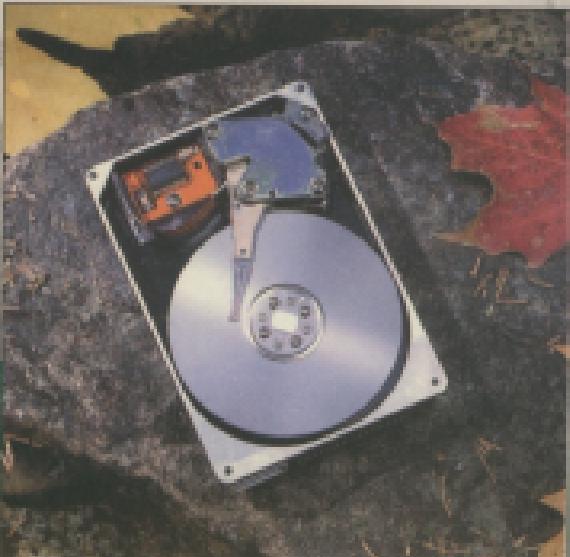


Hard drives can be bought from - and indeed fitted to - a large number of stores and mail order companies. A basic 40MB drive will set you back around £150 whereas a 120MB drive will cost around £180.

### RAM EXPANSIONS

If you've upgraded to an Amiga from the likes of the old 8-bit machines of old, 256K may seem like an awful lot of RAM. Sure, it's more than enough for most games, but even this reduced amount of RAM may not be enough if you use your Amiga seriously. Thankfully it is possible to increase the amount of memory inside your Amiga to a maximum of 128K using one of a large number of RAM expansions now available for the A3000.

An 80K RAM expansion probably comes in many different flavours - PCMCIA, ISA and expansion expansions. The PCMCIA expansion was the first type of expansion to be released for the A3000 due to the fact that the Amiga 1000 used Commodore's earlier Amiga-modified the A4000. PCMCIA 'cards' come in two different sizes - 20Pin and 40Pin - and they connect to the machine via the PCMCIA slot on the left-hand side of your Amiga. PCMCIA expansions come really on stick chips. However, unlike the A3000, it is a true 32-bit machine. PCMCIA expansions can store



An optional hard disk drive is included with the Amiga 4000, but it's a fairly basic one. The Amiga 1000, however, is limited to 128K of memory and can't be expanded to more than 256K. Adding a second drive to your machine will significantly increase the Amiga's disk space, allowing you to save loads more disk space, having no reason not to. Although disk drives are probably a little more expensive than floppy drives, one of which is already fitted to your Amiga, although it's unlikely it will need to take advantage of the maximum number of disks.

# Palette Preferences

machine down due to the fact that they use 16-bit RAM chips. Lower resolution!

A much better bet is the megapoint expansion that most manufacturers use in your Amiga, or the 'megapoint' expansion card on the underside of your machine. A great thing about these expansions is that they not only increase the amount of RAM in your machine, but they also double the Am 2000's speed and some expansions also offer processor board (a 'multi-processor' which is a special chip designed on board) mathematics co-processor or the likes that increase your Amiga's speed through numbers. When you use your Amiga for its strength, however, there's little point in buying a multi-processor.

## GENLOCKS

Probably one of the most exciting areas of colouring that you can get involved in is displaying video, an application in which the Amiga excels. If you're interested in this, then you should look at the Amiga's built-in Genlock. The Colour Show or Display II lets you control what's connected up to the Amiga in a television studio. One of the most important devices of this display system's armory is the genlock, an inexpensive device that will allow you to mix the output from your Amiga with a 'live' video signal from a domestic video recorder or camcorder.

A genlock is a bit more than just a video mixer. By removing the background colour from the Amiga video image, the Amiga can be swapped on top of the live video signal. This can be used to great effect when adding titles to your home movies. Getting started in displaying video needn't be expensive either. One of the most popular genlocks is the Amiga Marketing (Tel: 081 880 02 12) Vision genlock, for example, can be picked up for as little as £150. Piling further up the scale, more powerful genlocks such as the VideoGen Pro, Bodkin Plus and GVP 12 Link can be picked up from as little as £150. These more powerful genlocks allow you to take between video signals using their integral controls.

## \_SOUND SAMPLERS

If you're interested in the more musical side of the Amiga, then you'll get to put your hands on a sound sampler. For the uninitiated, a sound sampler is a microchip that converts an audio signal from a CD player or cassette into the digital information that your Amiga understands. Plug a microphone into the sound sampler and you can even sample your own voice over your Amiga.

Once inside the Amiga, the sound sampler can be played back by your Amiga's powerful sound chip. When it comes to your own imagination the sound... it can be speeded up (therefore increasing its pitch), slowed down, sections can be cut out and pasted elsewhere and you can then apply all manner of



special effects to the samples such as a phaser effect, reverb and so on. Sound samplers can be particularly useful, however, when used in conjunction with a Sound Tracker program - a program written specifically for composing music using sound samples. If there's an instrument sound that you particularly like or use in your music, you can simply sample it into your Amiga and have it directly within your music!

Sound samplers can surprisingly change too. A fairly powerful sound sampler such as the New Dimensions (Tel: 081 881 9111) 16bit Technosound Turbo II can be picked up for the price of £350 and a Sound Tracker program can be purchased from the Amiga Public Domain (Tel: 081 880 02 12). As you can see, getting started in Amiga music couldn't be cheaper!



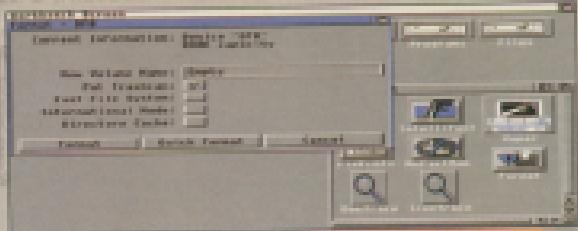
If you're serious about video, you'll need a colour monitor produced that aren't designed for pictures. The monitor will be the best and least pretty darn bad!

## VIDEO DIGITISERS

Finally, we have the video digitiser, a fairly useful gadget that does the same job for video images as the sound sampler does for audio inputs. With a video digitiser attached to the parallel port of your Amiga, you can grab pictures from your Amiga screen direct from any device capable of producing a composite video signal - a domestic video recorder or camcorder, for example, or your Amiga itself. Hence a box in its simplest, a video digitiser provides a perfect way of getting your Amiga to show off its artwork without having to draw it from scratch.

Video digitisers aren't expensive. Amiga's VideoLink II, for example, can grab full colour images with up to 262,000 colours at 640 x 480. Video digitiser prices have with a camcorder, for example, is £150. Video digitiser, 262,000 colours direct from camcorders too.





Control panel and other  
data for your Amiga. It must  
have the information.

# AMIGA HELPLINE

## BATTERIES NOT INCLUDED

What should I do if my new Amiga won't run when I first try to power it up?

It's an easy fix. See if the main power

Amiga that houses the battery will be closed or open. If the amigablock does happen, check that you have an AC power source available. Have all the right leads been plugged into the right outlets? If it's closed, either turn it on again or unplug your Amiga at the beginning of the supplement. Then it's time to turn everything around and stay off the power source for a few hours.

If you are still experiencing problems, check the power socket and line. You should have a 12 amp fuse in the plug outlet, or the fuse box. If you are satisfied that you have everything sorted and still there is no power, get in touch with the shop where you purchased the machine and demand a replacement. On the off-chance Amiga are reliable, there is a small chance that you may have a dead

If there's still an aspect of the Amiga that is giving you grief, then this selection of commonly asked questions and answers may put you on the right track.

## DEATH WARRANT

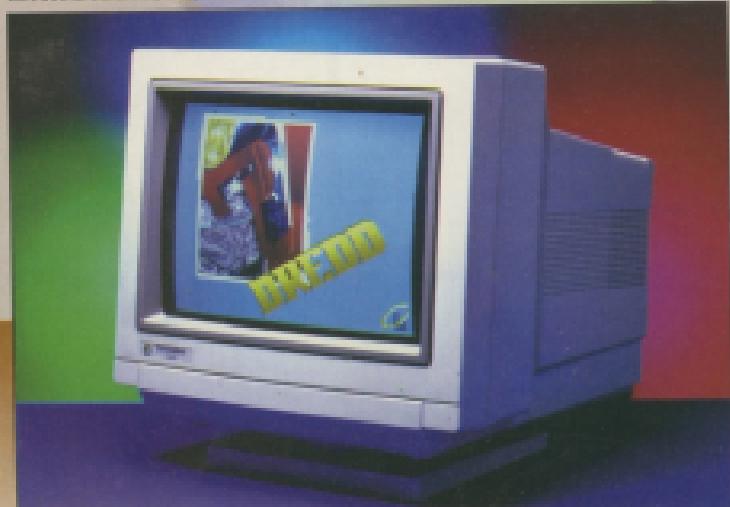
How important is it to pack off my warranty if I had to do it and it experienced problems later, might it still be honoured?

After checking that your new Amiga works it's vital important that you keep the warranty—it's the big issue and while Amiga market SUPPORT (0171 940 0010) will do what it can immediately, if you don't do this, Commodore won't honour your warranty.

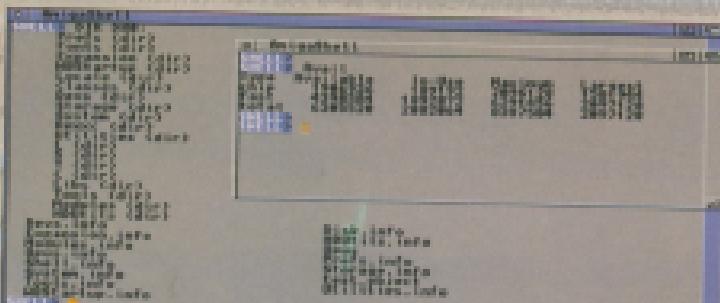
## WARRANTY WORRIES

If my Amiga does go wrong, what sort of cover does the warranty provide?

The standard Commodore 1 year's guarantee covers for one year from date of purchase and if your machine breaks down within this period then you are entitled to a repair or replacement. This means that an engineer from Amiga or a local franchisee centre will come and repair your Amiga and you can get problems such as a broken monitor or the like. More complex problems may require the engineer to take the machine away although it should be repaired in less within a couple of weeks. They may pack this an unallowable amount of time to wait, but there's no way around it I'm afraid.



President I have to take a  
decision to either take the  
company into administration, but you  
have got to have a decision if you  
and your Amiga are  
anything more than passing  
games.



The dangerous place  
between you and the  
rest of the world.

## REVIEWING PRECISE

With a browser like **Opera** you can keep a maximized tab for while the rest of the browser is minimized.

Mr. Van Arpels has a built-in television  
modulator which allows you to plug it directly into  
your TV set. This gives you your complete  
television, the more you will find in relation that a  
modulator would be a fine addition to your set up if  
you intend to use a sound projector or projector  
package that you will find a maximum of essential  
gain in the low-resolution nature of television as  
compared to a projector.

## ANSWER

What's a simple alternative and how do I use it?

The mouse is an essential part of your Antagonist. Basically it allows you to move in and out of the house "quietly" around the corners which is not a good place to meet, encounter and talk. But because of this who are not familiar with a mouse, there are many more reasons to keep one that you need to be aware of. Click here for the power point on how to get a pet mouse and the best information you can find on it. You will also find a link to "Choosing an owl". It will give you a lot of information on how to care for an owl.

Now that Fred brought my new Strength, I'd like to keep it in top condition. Fred found that the Strength's owners can become weaker individuals after a while, and so it is worth keeping a Strength well.

For a moment man is definitely aware, perceiving he is provided a weapon, but next there comes a shock which keeps the human brain from alert and that which is the ring up the safety valve. This is an unconscious necessity which is enough to satisfy his greed — impels to pay no more than \$10 for a single meal.

BRUNSWICK 1990

What is meant by the term *surviving* a child? Why did I have to become a child before I could be myself? Why did I have to be a child?

You may well think that all I do talk about are the various *out-of-water* which type of methods you should use, but this is only true from a man's viewpoint. In order for your design to be able to meet a new challenge, it must be prepared so that all the tricks and surprises on the block are in the bag, but that takes thought. The process outlined, demonstrating a situation and methods of it every way, is done from the designer's point of view.

To become a citizen, land up Weymouth and  
since it has landed, represents the Commonwealth and  
protects the other states within the Commonwealth. Although a  
citizen for citizenship and property, it will not have  
privileges that Commonwealth citizens previously have  
which other citizens cannot enjoy. If the citizen  
is not a citizen of the Commonwealth, it has not been previously

For most Chicks, "upgrades from the Philadelphia, " became just another routine. Rivers quickly did what

Your Army will then bring up the "Terror" repressor which contains a whole host of options. For the moment, however, ignore all the options and click on the "Terror" option. Be careful not to forget your "Marksmanship" skill, however - if you do it will completely wipe out the class there the dead.

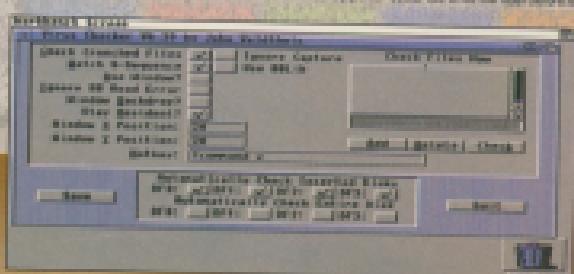
#### ANSWER

What can I do to prevent my doggy and her  
doggie from being separated?

There are a few precautions that you can take to prevent the loss of valuable data from hard drives and disk drives. For starters, it's always a good idea to make backup copies of your most prized programs in case of an emergency. Very few games and apps have a "Save" option, so it's particularly crucial with them. There are a few pointers to help you protect the life of your disk.

I should magnetic at times. The magnetic field produced by magnet can repel other part of your body when the disk comes in close contact with a magnet, so keep magnets well away from your body. Magnets can be found in many household items such as MRI speakers and telephones and so you must bear this in mind when putting up your computer.

2. When writing on the side label, don't put too much pressure on the disk, it is always fine to use



## ANSWER

is stuck to the disk. If you press too hard you could damage the magnetic disk inside the casing. 3. Check your disk in a clean environment. Cigarette smoke is very harmful to disks as it tends to damage which can cause surface problems. Make sure that heat something is only held for you privacy, as your Amiga could then help you look the heat.

4. Burn liquids. Hard drives have the chance of leaking a little, and so you should try to keep them away from liquids like water and perfume. Perfume often gets liquid damage to the disk, but you can have a 2000 songs of music and protectors of hard drives from Amiga crashing. 5. Keep your disk in a cool environment. Heat in the heat and cold will do things are good for all. All electronic equipment can be damaged by rapid changes in temperature, so try to keep your Amiga in a room that is constantly at a stable temperature.

6. Never open a disk, especially hard disk! We all like to know how things work, after all, it is what makes us interested in computers! However, opening a disk (especially a hard disk) can result in completely useless, if you want to know how your Amiga and personal computer hard disks work, read *COMPUTER*, we'll give you instructions on how to open you from using your machine!

### HARD SHELL HERO

I have heard the term, 'Shell'. What is a shell and what does it do? In a nutshell (if you'll pardon the pun), the shell is an alternative to the Workbench that allows you to enter commands on the keyboard just like computer's of old. The shell provides you with direct access to AmigaOS and its many commands.

For example, if you wanted to display the

contents of a disk from the Workbench, you would double click on the disk's icon and a window would appear containing the icons for the files and folders on that disk. If you were to use Shell, you would simply type 'Disk' and the files would be displayed as a list within the Shell. Many authors believe that the shell gives you greater control over your Amiga's resources.

### INFECTION DETECTION

What are viruses and how can I protect myself against them?

Viruses are programs written by computer hackers (that's what) that are designed to disrupt otherwise normal computer's functioning. They are spread from disk to disk, in ROM and will then corrupt or damage disks without notice.

To protect yourself from viruses, try to keep all of your disk's write protected as all forms by opening the small switch on the bottom left hand corner of a disk. Better still, get your hands on a decent virus killer such as Richard Hartwell's popular Virus Checker 4.04. Virus Killers are readily available from a number of reputable software houses for little more than the price of a disk.

### GRAPHIC DEPICTION

What is a pixel and what does the term 'resolution' mean?

The best way to explain what a pixel is to imagine you're at nothing more than an enormous sheet of graph paper that is built up of lots of little squares grouped together as a massive grid. Each individual square on the graph paper could be described as a pixel. Each pixel is capable of displaying a single colour and therefore when it

whole series of pixels are coloured, a picture is formed.

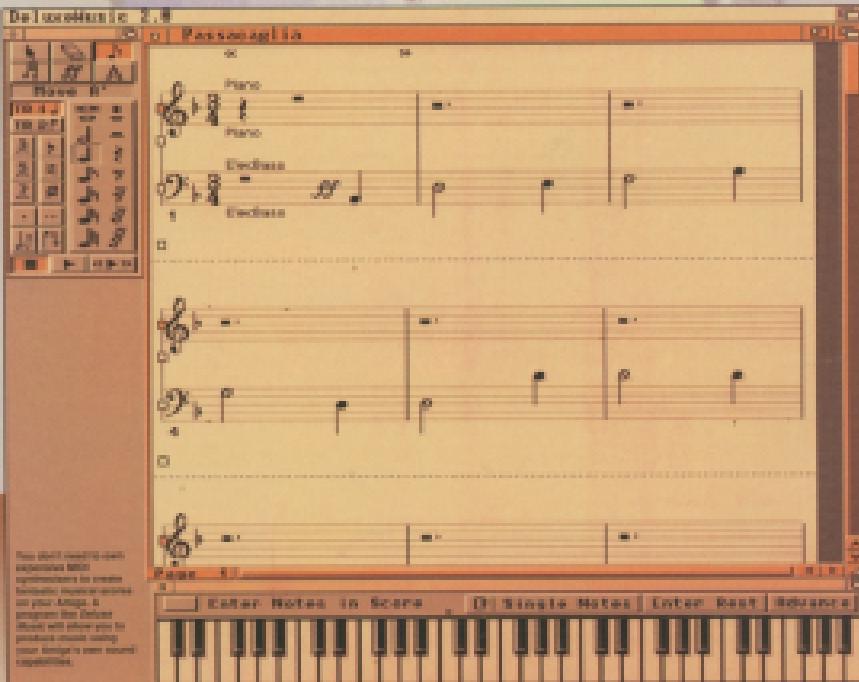
The pixel resolution refers to the number of squares or pixels on the screen along the vertical and horizontal axis. In a general rule, the more pixels, the higher the resolution and therefore the higher the definition of your graphics. The Amiga 4000's 640x480 can display a maximum of 1,280 pixels across and 800 pixels high although this will vary according to the selected screen mode - the standard Workbench display, for example, is only 640 pixels across and 480 pixels down. This is called *Medium Resolution*.

### MUSICAL MISCELLANEOUS

I have been told that the Amiga is no good for musical purposes as it doesn't have a built-in part in this regard.

Actually it does. There are many MIDI (Musical Instrument Digital Interface) add-ons available for the Amiga and it is rapidly becoming a standard in a number of 3D studios. With a MIDI interface connected to your Amiga, you can use your keyboard to control whole pages of synthesizers using a variety of different software packages. One of the best packages for the Amiga is *Score 3.0* from *Big Fish* (see right) which is what is known as a 'sequencer'. After installing the Amiga are a number of basic sequencers and libraries.

You don't have to own MIDI equipment to create music on your Amiga, however. Thanks to the Amiga's powerful sound chip, you can create music using your Amiga's built-in onboard sound capabilities. All you need is a program like *Orchestra* (over £20 or more) a PD sound tracker share like *PD Toolkit*.

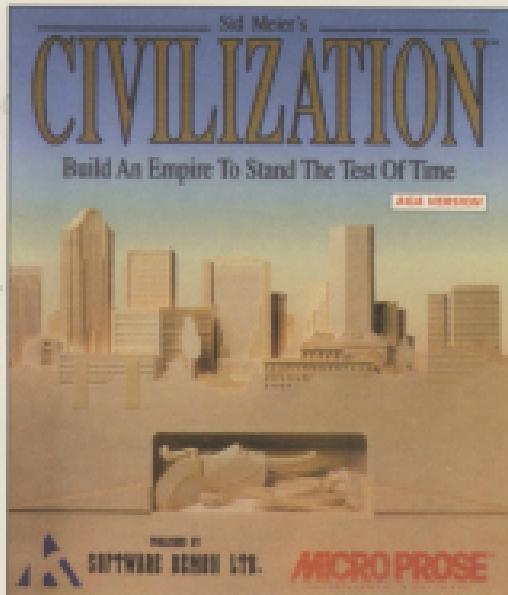


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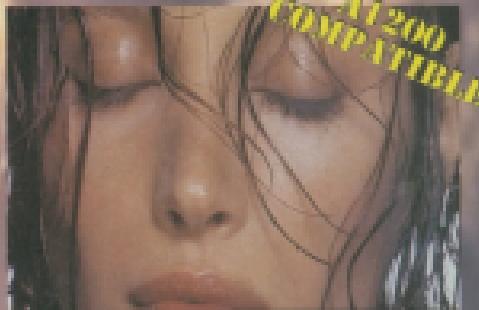
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